

**CLAIMS**

1. Apparatus for measuring the strength of a person's respiratory muscles, which apparatus comprises a mouthpiece for the person, a flow transducer, a pressure transducer, a variable orifice valve, a motor for operating the variable orifice valve, and microprocessor control means, the microprocessor control means being such that it is able to control the motor to cause the variable orifice valve to vary its orifice size and thereby to maintain a constant predetermined pressure and enable measurement of the flow rate generated by the person, or to maintain a constant predetermined flow rate and enable the measurement of the pressure generated by the person.
2. Apparatus according to claim 1 and including a flow transducer, the flow transducer being connected to the control circuit, the pressure transducer being connected to the variable orifice valve and to the control circuit, and the control circuit being connected to the microprocessor control means.
3. Apparatus according to claim 1 in which the microprocessor control means comprises a microprocessor circuit, display means, and a keypad.
4. Apparatus according to claim 3 in which the display means is a display screen and/or a hard copy print device.

5. Apparatus according to claim 1 in which the mouthpiece has a flange at the end of the mouthpiece that goes into the person's mouth.

6. Apparatus according to claim 1 in which the variable orifice valve is a rotary variable orifice valve.

7. Apparatus according to claim 6 in which the rotary variable orifice valve has an orifice which is of a shape that causes the resistance to flow of the rotary variable orifice valve to increase with rotation.

8. Apparatus according to claim 6 in which the orifice in the rotary variable orifice valve is of a triangular shape.

9. Apparatus according to claim 6 in which the rotary variable orifice valve comprises a cylindrical member and a sleeve which is a rotational fit over the cylindrical member.

10. Apparatus according to claim 9 in which the cylindrical member has an aperture, the sleeve has the orifice, and the aperture and the orifice are positioned such that they overlap as the sleeve rotates.

11. Apparatus according to claim 9 in which the cylindrical member has the orifice, the sleeve has an aperture, and the aperture and the orifice are positioned such that they overlap as the sleeve rotates.

12. Apparatus according to claim 9 in which the orifice is positioned partly in the cylindrical member and partly in the sleeve.
13. Apparatus according to claim 1 in which the variable orifice valve is a flat plate variable orifice valve.